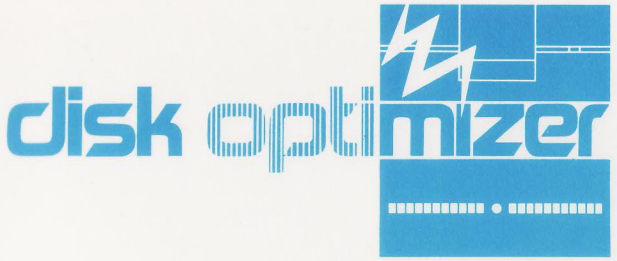
SOFTLOGIC
SOLUTIONS



SOFTLOGIC
SOLUTIONS

The Disk Optimizer Software

Owner's Handbook and Guide

PC Disk Performance Enhancer

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SoftLogic Solutions, Inc.
530 Chestnut Street

Table Of Contents

1.0 Introduction 5
- 1.1 This is the Disk Optimizer Software 5
- 1.2 How to Use this Manual and the Software 6
- 1.3 Discussion on Disk Optimization 7
- 1.4 General Questions and Answers About Optimizing 9

2.0 The Optimizer Program 11
- 2.1 General 11
- 2.2 Operating Procedure 13
- 2.3 Error Messages and Troubleshooting 15

3.0 The Optimization Analysis Program 19
- 3.1 General 19
- 3.2 Operating Procedure 20
- 3.3 Error Messages and Troubleshooting 22

4.0 The File Security Programs Lock and Unlock 25
- 4.1 General 25
- 4.2 Operating Procedure 26
- 4.3 Error Messages and Troubleshooting 28

5.0 The File Peeker Program 31
- 5.1 General 31
- 5.2 Operating Procedure 32
- 5.3 Error Messages and Troubleshooting 36

6.0 Requirements and Specifications 39

7.0 Index 41

1.0 Introduction.

1.1 This is the Disk Optimizer.

The Disk Optimizer software is comprised of four distinct functions, each of which may be used independent of the other. These functions are most useful for users of hard disk systems, but can also be used with floppy systems.

The Disk Optimizer software includes:

1. Disk distance compression [Optimizing].
   Tunes your disk files for super high performance by consolidating the pieces of files and free space into contiguous areas on the disk.
2. Disk Optimization Analysis.
   Determine percentage of optimization for your entire disk, or for a particular directory, or group of files.
3. Personal File Security. Password Lock and Unlock.
   Encrypt your files and programs to prevent unauthorized use or access. Uses DOS globals (* and ?) so you can do groups of files too!
4. File Peeker.
   Examine any program, data file, or disk file. Provides choice of four display formats, for your convenience.

Specifications and system requirements for using the Disk Optimizer Software can be found in section 6 of this manual.

1.2 How to Use this Manual and the Software

1.2.1 Using the manual.

This manual has been written to act as a reference guide for use with the Disk Optimizer software package. An individual chapter in the book is devoted to each of the four Disk Optimizer functions. Chapters 2 thru 5 each correspond to one of the applications.

1.2.2 Using the Software

Disk Optimizer comes on a diskette which contains all of the files which comprise Disk Optimizer, and a program used to create a working copy of the Disk Optimizer software on your own diskette or hard disk. The original Disk Optimizer diskette is intended to be kept as a Master Backup Copy, and therefore the software should not be run from the original diskette.

Instead, the Disk Optimizer comes with the ability to transfer a working copy of the software onto your own diskette or hard drive. This keeps your original diskette safe from any damage which might occur through normal use, such as normal media wear or inadvertant erasure.

The process of installing the Disk Optimizer onto a hard disk or diskette is started by placing the Disk Optimizer diskette in the "A" diskette drive, making "A" the DOS default drive, and typing the command "INSTALL A C". This assumes that you are installing the Disk Optimizer onto drive C. If this is not the case, substitute the correct drive designations in the INSTALL command (eg- INSTALL A B).

If you want Disk Optimizer installed in a subdirectory, you must make that directory the default directory before starting the installation using the CD or CHDIR command.

The installation program will prompt for information required to complete the installation, requiring you to acknowledge each step. This process transfers all of the files required to run Disk Optimizer onto the disk(ette) which you have indicated.

PLEASE NOTE:

The installation procedure can be reversed at any time by running the de-installation process. To accomplish this, set the drives as above and type "UNINSTALL A C".

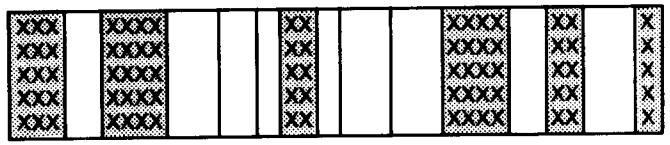
1.3 A Discussion on Disk Optimization.

1.3.1 What is the problem and how is it caused ?

Whether you realize it or not, the more you use your hard disk, the slower it is likely to get! This is because the operating system (PC-DOS or MS-DOS) stores things wherever there is space available, and doesn't worry about keeping pieces of the same file together. This means slower access times, and lost speed.

Due to the random nature of the PC-DOS (MS-DOS) filing system, it is possible to have parts of a large disk file scattered all over the physical disk. And, since DOS's unit of disk storage (sometimes called "clusters") on most hard drives is 4K (4096 bytes), a file doesn't really have to be very large before it has the potential to be de-optimized by DOS. The de-optimization is transparent to you, except that it shows itself in longer access times.

In the figure below, the shaded areas represent available free spaces, each of which is 2-4K in size.A new file written onto this area of the disk would be stored in at least five different physical places on the disk -- using up the free spaces shown first. This means that future reading and writing of the new file will carry the extra overhead of re-positioning the disk five or more times!



As the physical layout deteriorates from continued usage of the disk, system performance is degraded due to the additional disk operations for positioning which are required. Since positioning is the most time-consuming part of the process, the speed being lost becomes considerable.

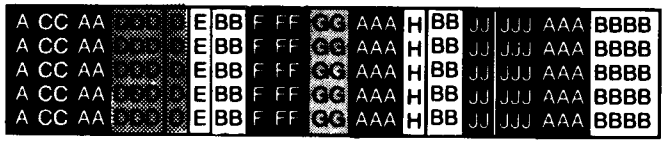
The random ordering of the disk becomes even more exaggerated when files on the disk are used frequently or change size often. However, even program files, which never change sizes, can be permanently scattered over the disk due to the actual placement of physical space available on the disk when the file is created or copied onto the disk.

1.3.2 What does the Disk Optimizer do to correct the problem ?

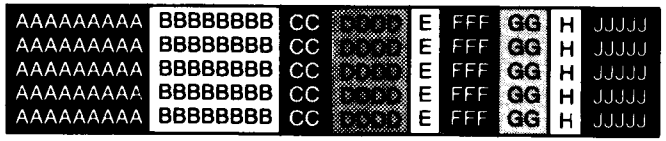
The purpose of disk optimization is to consolidate the physical layout (of the disk) to correspond to the logical makeup of the disk.

The Disk Optimizer puts the quickness back into your hard disk by collecting all of the pieces of your files and re-storing them together, in consecutive, contiguous disk storage areas (clusters). This results in immediate performance improvement in everything that uses the disk; from loading programs (and their overlays) to sorting or loading and saving spreadsheets or document files.

Before Optimizing



After Optimizing



The optimizer program consolidates the physical space used by the files on a disk into a contiguous area, providing the system with improved disk performance. This can be especially important for network systems, or any other form of multi-user or multi-tasking operation.

1.4 General Questions and Answers about Optimizing

Q. How long does it take to optimize my disk ?

A. The time for optimizing depends on a number of factors: actual capacity of your disk, amount of free space on the disk, RAM space available to the Optimizer, number of sub-directories, and whether it has been Optimized before.

On a standard XT drive, it could take nearly an hour the first time the Optimizer is run. Once it has been run the first time, subsequent optimizes will take from 5 to 30 minutes.

Q. How much faster will my system run ?

A. This depends on the particulars of your system, and what kind of programs you use. Some applications have more to gain since they use the disk for more of their work. In all cases, the system will run noticeably faster.

In general, the longer your drive has been in use since a format, the greater the potential for improved performance.

Data base and accounting systems have the most to gain, while spreadsheet users will notice that their program starts more quickly, and worksheets are loaded and saved more quickly, but will not see any change in the time spent actually working with a particular spreadsheet.

Q. How often should I run the Optimizer ?

A. You can run it as often as you like. But, you will probably run the Optimizer once or twice a month, when the system starts to slow down again (thanks to DOS). The Optimizer's Disk Analysis program will help you to decide when you should optimize again, by showing you the optimization percentage any time.

Q. How safe is it to run and use ?

A. The Optimizer has been designed for "safety first". Disk information gets optimized by making a new copy of the file being optimized, and then deleting the old one. So, you are never in danger of losing any information. You can even pull the plug on the system while it is optimizing without loss or damage to disk information.

2.0 The Optimizer Program

2.1 General

Disk Distance Compression (Optimizing).

The purpose of this function is to consolidate the physical layout of the disk to correspond to the logical makeup of the disk. Due to the random nature of the PC-DOS / MS-DOS file system, it is possible to have parts of a disk file scattered all over the physical disk. This is largely transparent to the user, except that it manifests itself in longer loading and storing times.

The disk optimizer program consolidates the physical space used by the files on a disk into a contiguous area, providing the system with improved disk performance. This can be especially important for network systems, or any other form of multi-user or multi-tasking operation.

This program can be run anytime, and is most often used after running the Disk Optimization Analysis program to determine the need for Optimizing. The amount of time required for this program to complete its processing will vary according to the particulars of your disk. Some of the factors are: capacity of the drive; organization and number of sub-directories; whether the Optimizer has been run before.

Because of the nature of this program ... it completely re-arranges the physical layout of your disk ... you should make a complete backup of the drive to be optimized before running the program for the first time on your system. This will protect you from any possible incompatibilities with your particular drive.

Backing up before using the Optimizer for the first time is of particular importance if your system is not an IBM, or if your IBM system does not contain standard IBM drives. This program has been tested with standard IBM drives, as well as several of the most popular add-in and add-on drives.

Once you have successfully run the Optimizer program on your system, you need not back up each time before running it. This step is recommended only for determining initial compatibility with your setup.

The Disk Optimizer never moves files which are marked as "hidden", as these are often used in commercial program's copy protection schemes, and any tampering (moving) with these files might render the other software unusable. Therefore, as a safeguard, the OPTIMIZE program will not move the clusters which contain the data for files with the "hidden" attribute.

A WORD OF CAUTION ...

Because this program re-arranges disk information as it runs, you must not run any other program simultaneously. If you have a multi-tasking or multi-user setup, be sure to disable it first before starting the Disk Optimizer to avoid any trouble. The Optimizer program itself will attempt to lock out any other processing, but this cannot be guaranteed in all "multi" environments.

2.2 Operating Procedure

2.2.1 Start the Program.

To start the program, simply enter "OPTIMIZE", without the quotes. The program will clear the screen and prompt for the entry of the disk(ette) drive letter which is to be optimized. You can optionally supply a drive designation when you start the program, for batch operation. For example: OPTIMIZE C:

2.2.2 Select a Drive to be Optimized.

The current default drive is shown and may be selected automatically by striking the enter key [↵]. If you wish to optimize another drive, simply enter the drive letter, followed by the enter key. If you will be optimizing several different disk drives, enter the letter for the one which you wish to optimize first. You may re-run this program as many times as you like, in order to optimize different drives.

2.2.3 The Optimizer Program Runs.

Once you have entered the drive letter, the program begins the optimization process. The program displays messages indicating that the disk reorganization process is being performed. There are two distinct parts to this process, and the program displays a message which indicates which part is now occurring.

First the message "Part One -- disk directory reorganization" is displayed. During this part of the processing the optimizer program is arranging the "first level" sub-directory entries so that they are the first entries in the "Root" directory, and all sub-sub directories are made the first entries in their respective parent directories. This is done to increase processing speed, and for easier management of sub-directory information. Sub-directory entries are sorted by their extension and name as they are placed first in the parent directory.

After the directory information has been reorganized, the program displays the message "Part Two -- disk cluster reorganization". This means that the work of moving each individual file to its new location is in progress. This part of the processing can run for some time, so the Optimizer program gives you the opportunity to

interrupt the reorganization, if you require access to the machine before the reorganization is completed.

The message "Strike the Space Bar to end this program" is displayed, and indicates that the program can now be interrupted before it is completed. If you type the space bar key, the program will terminate (as soon as the current reorganization "pass" is completed, and before starting the next one), and can be restarted later without data loss or other consequence.

2.2.4 The Optimizer Program Finishes.

After all disk reorganization is completed, the Optimizer program will display the message "Disk Optimization completed successfully". Your disk has now been reorganized for fastest possible operation.

2.3 Error Messages and Troubleshooting

Disk Error Reading (Writing) File Allocation Table.

This message means that an un-recoverable disk error has occurred, and the program has been prevented from completing. This error indicates severe potential damage has occurred on the disk. You must recover the disk so that the DOS utility CHKDSK indicates that there are no errors on the drive before running this program again.

File Allocation Table Bad - cannot continue.

This message indicates that the Disk Optimizer program has detected invalid information in the File Allocation Table. No optimization procedures have been started, or completed. You must use the DOS utilities to correct this problem before restarting the Optimizer.

Invalid allocation chain in File Allocation Table.

This message indicates that the program has detected a cluster (or group of clusters) on the disk which is not connected to the proper file entry as indicated by the File Allocation Table and the disk directory. You must use the DOS program CHKDSK to correct the problem, and then restart this program.

Not Enough Memory to Run this Program.

This message indicates that there is not enough free RAM space to load this program and set up the required tables. You must either add RAM memory to the system, or remove some "resident" software or RAMdisk which is using the available memory space. Once you have made this change, you may re-start this program.

Disk error reading (writing) root directory.

This message means that an un-recoverable disk error has occurred, and the program has been prevented from completing the optimization. This error indicates severe potential damage has occurred on the disk. You must recover the disk so that the DOS utility CHKDSK indicates that there are no errors on the drive before running this program again.

Disk error reading (writing) sub-directory.

This message means that an un-recoverable disk error has occurred, and the program has been prevented from completing the optimization. This error indicates severe potential damage has occurred on the disk. You must recover the disk so that the DOS utility CHKDSK indicates that there are no errors on the drive before running this program again.

Internal Error.

This message means that your copy of the Disk Optimizer program is defective. Contact SoftLogic Solutions technical support for assistance.

More than 512 directories.

This message means that your hard disk contains more than 512 total directories, including all sub-directories. The Disk Optimizer software cannot handle more than this number of directories at one time. You must remove or combine enough directories so that the total number does not exceed 512.

More than 30 directory levels.

This message means that your disk has sub-directories which are "nested" more than 30 deep. In other words, you have a sub of a sub of a sub of a sub... which travels more than thirty levels deep. You must eliminate the lowest levels of sub-directories so that there are 30 or fewer levels of directories before the Disk Optimizer can process.

Disk read (write) error.

This message indicates that an I/O error has occurred during the reorganization of the disk, and the optimizer program is unable to finish. Have your hardware checked before restarting the optimizer.

Disk is full - must have at least one free cluster to run.

This message means that your disk is completely full -- there are no free bytes. The Disk Optimizer requires that there be at least one free area on the disk which it can use for re-arranging the disk information. You must delete some program or file from the disk so that a directory command (DIR) will show some number of bytes free other than zero.

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3.0 The Disk Optimization Analysis Program

3.1 General

The Disk Optimization Analysis Program permits you to determine how much, or how little, your disk needs optimization. The Analysis program shows the present optimization as a percentage which represents either the entire disk, a particular directory, or a particular group of files.

You may use this analysis program any time, since it takes a very short time to run. The percentages shown can be used as a guide to deciding whether or not to run the Disk Optimizer program.

To use the program, you select the drive to be analyzed, and optionally the directory and files, and indicate whether you want the percent of optimization shown for each individual file. The analysis program will display the requested information, pausing only for your response when the screen becomes full.

The program shows the optimization for any file which requires more than one cluster (the DOS unit of measure for disk storage) on the disk. The program analyzes the physical placement of each individual piece (cluster) of the file, and determines whether it is located next to the other pieces of the files. This relationship is converted to a percentage for each file, and the individual percentages are averaged together to determine optimization percentages for directories and the entire disk.

A file displaying 100% is completely optimized, with all clusters contiguous, while a file showing 0% has no contiguous clusters. A general guideline is to optimize when files which you use frequently fall below 60%.

It should be noted that some files may never achieve 100% optimization. This is usually due to the presence of "hidden" files on the disk, which occupy clusters needed to have the file(s) made completely contiguous.

3.2 Operating Procedure

3.2.1 Start the Program.

To start the program, simply enter "ANALYZE", without the quotes. The program will clear the screen and prompt for the entry of the disk(ette) drive letter which is to be analyzed.

3.2.2 Select a Drive to be Analyzed.

The current default drive is shown and may be selected automatically by striking the enter key [↵]. If you wish to analyze another drive, simply enter the drive letter, followed by the enter key. If you will be analyzing several different disk drives, enter the letter for the one which you wish to examine first. You may re-run this program as many times as you like, in order to analyze different drives.

From this point, you may type the ESC key to end the program, if you have changed your mind about running this program now.

3.2.3 Choose a Directory.

You may analyze optimization for the entire disk or for any directory on your disk(ette). Once you have selected the drive to be analyzed, you will be prompted to select the directory. If you wish to analyze the entire disk, you will make the selection for "ALL DIRECTORIES".

A video highlight is used to make this selection. In order to make a selection, you simply move the video highlight so that it covers the name you wish to select. The video highlight is moved using the "arrow" keys located on the numeric pad. Pressing the right-arrow key will cause the video highlight to move right one column; pressing the down-arrow key will cause the highlight to move down one row; and so on.

Once the desired choice is covered by the video highlight, make your selection by striking the return key.

If you will be analyzing several different files or directories, choose the directory you wish to examine first. You may run this program repeatedly.

From this point, you may also type the ESC key to return to the

point in the program from which you select a disk drive to be analyzed.

3.2.4 Choose a File.

You may analyze optimization percentage for any file, or group of similar files, in the selected directory. Once you have selected the directory to be analyzed, you will be prompted to select a file (or group of files) to be analyzed. The default value of "ALL FILES" will be shown on the screen. You may type the return key to analyze all files (in the selected directory), or you may enter the name of a specific file.

You may also enter a file name match code using the DOS global characters (* and ?). In that case, the optimization percentage will be shown for all files which match. The global character asterisk (*) means any series of characters will match for the remainder of the file name or extension. The global character question mark (?) means that any single character will match in this position.

For example you could enter "*.DOC" to choose all files which end with the extension "DOC", but begin with any file name. Or, you could enter "123??.*" for the specific files which begin with the numbers "123", have only five characters total for the file name, and end with any extension. If you are not familiar with the use of the DOS global characters, refer to your DOS manual for additional information on the use of these "wild card" characters.

If you will be analyzing several files, enter the name for the file which you wish to examine first. You may run this program repeatedly to examine the optimization of more individual files.

From this point, you may also type the ESC key to return to the point in the program from which you select a directory to be analzyed.

3.2.5 The Optimization Percentage is Displayed.

The program will now display the optimization percentage for each individual file selected, if you have chosen for all to be displayed, and will show the "TOTAL PERCENTAGE" of optimization for all of the files selected.

3.3 Error Messages and Troubleshooting

Disk Error Reading File Allocation Table.

This message means that an un-recoverable disk error has occurred, and the program has been prevented from completing the analysis. This error indicates severe potential damage exists on the disk. You must recover the disk so that the DOS utility CHKDSK indicates that there are no errors on the drive before running this program again.

Not Enough Memory to Run this Program.

This message indicates that there is not enough free RAM space to load this program and set up the required tables. You must either add RAM memory to the system, or remove some "resident" software or RAMdisk which is using the available memory space. Once you have made this change, you may re-start this program.

The Directory is too large for the amount of memory.

This message indicates that there is not enough free RAM space to allocate the data tables required to run the program for the directory which has been selected. You must make available more RAM, by either adding RAM to the system, or removing some "resident" software or RAMdisk which is using the available memory space. You may also restart the program, and select another directory which contains fewer entries.

Invalid cluster found.

This message indicates that the program has detected a cluster (or group of clusters) on the disk which is not connected to the proper file entry as indicated by the File Allocation Table and the disk directory. You must use the DOS program CHKDSK to correct the problem, and then restart this program.

Disk error reading root directory.

This message means that an un-recoverable disk error has occurred, and the program has been prevented from completing the analysis. This error indicates severe potential damage exists on the disk. You must recover the disk so that the DOS utility CHKDSK

indicates that there are no errors on the drive before running this program again.

ANALYZE does not run on DOS 1.10.

This message indicates that you have attempted to operate the Disk Analyzer program using an older version of the DOS operating system. You must use DOS 2.X or later when running the Disk Analysis program.

4.0 The File Security Programs Lock and Unlock.

4.1 General

The Disk Optimizer provides the user with the ability to encrypt individual files, so that no one else may view their contents without the key word, or password, required to de-encrypt the file. This same procedure can also be used on program files to prevent their being used by someone else without the password. This operation is quick and easy to use, and allows the user to select their own password, or series of passwords for this purpose.

These programs can operate on either a single file, or on a group of similar files. The DOS global characters (* and ?) are permitted for use in specifying the file names, thus allowing multiple files to be handled in a single pass.

Separate programs are provided for locking and unlocking the files, however both are operated in a similar fashion.

4.2 Operating Procedure

4.2.1 Start the Program.

To start the program, simply enter "LOCK" or "UNLOCK", without the quotes. The program will clear the screen and prompt for the entry of the name of the file to be locked or unlocked.

Additionally, either program can also be started with the file name specified as an argument to the command for starting the program. For example, you might enter "LOCK C:\LOTUS\123.EXE" in order to lock the 123.EXE program file found in the LOTUS subdirectory of drive C.

4.2.2 Indicate the name of the file(s) to be locked or unlocked.

You may enter the file name to be locked or unlocked either as an argument to the command when starting the program, or, when prompted by the program. File names can be entered with their full drive and path information if they are located somewhere other than the current directory of the default drive. You may also use the DOS global characters (* and ?) to indicate a group of files to be locked or unlocked. For example "UNLOCK *.WKS" would cause all files in the current directory, which bear the extension WKS, to be unlocked. For more information on the DOS global command characters, refer to your DOS manual.

4.2.3 Enter the Password.

Once you have entered the name of the file, or files, which are to be locked or unlocked, you will be prompted to "Enter the password". The password is any combination of up to eight (8) characters, and will be used to lock or unlock the file or files requested. Be sure to choose a password which will be easy for you to remember, but difficult for others to determine. It is important for you to remember the password, for without it, you will be unable to ever use the locked files again.

4.2.4 The Files are Locked or Unlocked.

After you have entered the password desired, the program will attempt to process your request.

If you are locking files, any files which you request to be locked which have previously been locked will be noted with the message "FILENAME.EXT was already locked". Any files, once locked, can only be used after using the UNLOCK program, along with the correct password, to de-encrypt them. If you lose of forget your password, the file will be useless to you!

If you are unlocking files, any files which match your request and match the prossword which you have given will be de-encrypted. The message will be displayed "FILENAME.EXT has been successfully unlocked". Files which match your request, but not your password, will be left encrypted and the message will be displayed "FILENAME.EXT has been locked with a different password".

4.3 Error Messages and Troubleshooting

File FILENAME.EXT was already locked.

This message indicates that a request was made to lock a file which had previously been encrypted with the LOCK program. You cannot lock the same file twice, without unlocking it first.

File FILENAME.EXT was not locked.

This message indicates that a request was made to unlock a file which was not previously encrypted by the LOCK program. You cannot unlock a file without having locked it first.

Not enough memory to run the LOCK (UNLOCK) program.

Both the LOCK and UNLOCK programs require at least 90K bytes of free RAM space in order to run. Add more RAM to the system, or remove some "resident" software or RAMdisk software to make enough room to run the program.

The memory control blocks are destroyed.

Prior to starting this program, the DOS memory blocks had been damaged. You must boot the system, and restart the program.

The disk is full. No more files can be locked at this time.

There is no room left available on the disk to create a locked (unlocked) copy of the file. You must have free space on the disk at least as large as the file you wish to lock or unlock.

LOCK (UNLOCK) does not run on DOS 1.10.

You are using an older version of the DOS system. You must use DOS 2.X or higher in order to use these programs.

The directory is full.This program cannot be run.

The disk is full, and there is not enough space to create a new directory entry for the locked (unlocked) file. Make space on the disk by deleting some files.

FILENAME.EXT Access Denied.

DOS 3.X (or higher) is present, and the file requested is locked in use by the operating system or network. You must wait for the other user(s) to finish with the file.

5.0 The File Peeker Program.

5.1 General

The File Peeker program permits the user to freely access any information stored in any file on the disk, and to display its contents on the video display screen in several different formats. This is useful for satisfying curiosity, or as a debugging aid for the programmer.

This program permits you to examine the contents of any file on your disk or diskette. Since literally everything which is stored on your disk is stored by DOS as a file, you may examine the contents of anything! This includes program files, such as .COM and .EXE files; it includes data files, such as .DOC, .TXT, and .WKS, files; you can literally examine any file on the disk.

Once you have selected a file to be examined, you are provided with a choice of four different display formats for the information from the file. You may use any (or all) of the display formats for any file you are examining.

5.2 Operating Procedure

5.2.1 Start the Program.

To start the program, simply enter "FILEPEEK", without the quotes. The program will clear the screen and prompt for the entry of the disk(ette) drive letter which is to be examined. You can optionally supply a drive designation and file name when you start the program. For example: FILEPEEK C: or FILEPEEK A:DEMO.BAT

5.2.2 Select a Drive to be Examined.

The current default drive is shown and may be selected automatically by striking the enter key [↵]. If you wish to view files from another drive, simply enter the drive letter, followed by the enter key. If you will be examining several files which reside on different disk drives, enter the letter for the one which you wish to examine first. You will be permitted later to select another disk drive, if desired.

5.2.3 Choose a Directory.

You may examine information from any directory on your disk(ette). Once you have selected the drive to be examined, you will be prompted to select the directory which contains the file to be examined. If the disk contains any sub-directories, a list will be displayed which will show the names of all directories on the disk.

It there are no sub-directories on the disk, this step will be skipped, and the ROOT directory is automatically selected.

A video highlight is used to make the selection. In order to make a selection, you simply move the video highlight so that it covers the name of the directory you wish to select. The video highlight is moved using the "arrow" keys located on the numeric pad. Pressing the right-arrow key will cause the video highlight to move right one column; pressing the down-arrow key will cause the highlight to move down one row; and so on.

Once the desired directory name is covered by the video highlight, make your choice by striking the return key.

If you will be examining several files which reside in different directories, choose the directory which contains the file you wish to examine first. You will be permitted later to select another directory, if desired.

From this point, you may also type the ESC key to return to the point in the program from which you select a disk drive to be examined.

5.2.4 Choose a File.

You may examine information from any file in the selected directory. Once you have selected the directory to be examined, you will be prompted to select the file to be examined. A list will be displayed which will show the names of all the files in the directory which you have selected.
If a file is a "hidden" file, the Disk Peeker program will display the letters "«HID»" after the file's name. If the file is both a "hidden" file and a "system" file, the program will display the letters "«H/S»" after the file's name.

As above, a video highlight is used to make the selection. In order to make a selection, you simply move the video highlight so that it covers the name of the file you wish to select. The video highlight is moved using the "arrow" keys located on the numeric pad. Pressing the right-arrow key will cause the video highlight to move right one column; pressing the down-arrow key will cause the highlight to move down one row; and so on.

Once the desired file name is covered by the video highlight, make your choice by striking the return key.

If you will be examining several files, choose the file which contains the information you wish to examine first. You will be permitted later to select another file, if desired.

From this point, you may also type the ESC key to return to the point in the program from which you select a directory to be examined.

5.2.5 Choose a Display Format.

The File Peeker program permits you to view the file you have chosen in any or all of four (4) different display formats. Each is slightly different, and has a slightly different purpose.

As above, a video highlight is used to make the selection. In order to make a selection, you simply move the video highlight so that it covers the type of display format you wish to select. The video highlight is moved using the "arrow" keys located on the numeric pad. Pressing the up-arrow key will cause the video highlight to move up one item; pressing the down-arrow key will cause the highlight to move down one. You may also move the highlight bar by typing the number which corresponds to the selection you wish to choose.

Once the desired display format is covered by the video highlight, make your choice by striking the return key.

If you will be using several display formats, choose the one which you wish to use first. You will be permitted later to return to this point and select another format, if desired.

From this point, you may also type the ESC key to return to the point in the program from which you select a file to be examined.

Your choices for display formats are:

1. Debug style (standard)
2. All in hexadecimal values
3. All in ASCII values
4. Line format (text)

The "debug style" gives you both the hexadecimal and ASCII values for the file's contents. Each of the twenty one (21) lines gives you sixteen (10 Hex) characters of the file shown in a format which resembles that of the DOS utility DEBUG.COM. Each line shows the hex offset from the beginning of the file.

The "hexadecimal" display format shows the contents of the file by displaying the hex value for each character in the file, separated by spaces. Each of the twenty one (21) lines shows twenty four (18 Hex) characters of the file.

The "ASCII" display format, is similar to the hex format described above, except that the individual characters are shown with ASCII values. This format gives you twenty one (21) lines per screen, each with sixty four (40 Hex) characters. As above, the hex offset from the beginning of the file begins each line.

The "line" display format is used for displaying textual information, and is meant for use with files which contain only the 128 character display set. This format provides twenty (20) lines, each containing up to eighty characters. However, this format will terminate the display for a particular line when it encounters the "carriage return" or "line feed" special characters.

5.2.6 Examining the File.

You may examine any portion of the file, using any of the display formats. Once you have selected a display format, the program will display the first screen of the file. The amount of data from the file which is shown depends upon which selection you have made for display format ... some show more at once than others.

You can use the arrow keys to move both forward and backward in the file with the display. Down-arrow moves the display to the next screen of data from the file, and so on. In addition, you can use the END key to move directly to the end of the file, and the HOME key to move directly to the beginning of the file. PgUp and PgDn keys perform the same operations as the arrow keys.

From this point you may also type the ESC key to return to the choices for display formats, and you may type the F10 key to terminate the program.

-- Just for fun -- If you happen to own Microsoft Word, select the ASCII display format for the program WORD.COM. Use the END key to go to the end of the file. It makes for interesting reading!

5.3 Error Messages and Troubleshooting

Not enough memory to run the FILEPEEK program.

The FILEPEEK program requires at least 40K bytes of free RAM space in order to run. Add more RAM to the system, or remove some "resident" software or RAMdisk software to make enough room to run the program.

The memory control blocks are destroyed.

Prior to starting this program, the DOS memory blocks had been damaged. You must boot the system, and restart the program.

FILEPEEK does not run on DOS 1.10.

You are using an older version of the DOS system. You must use DOS 2.X or higher in order to use this program.

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6.0 Requirements and Specifications

The Disk Optimizer Software package is meant for use on an IBM personal computer system, or equivalent, with at least 128K bytes of RAM. 256K bytes of RAM, or more, is recommended for fastest operation of the optimizing process. The File Peeker program, and the others, excluding the Optimizer program, can operate with less than 128K of RAM.

The Disk Optimizer also requires the system to be running with PC-DOS or MS-DOS, version 2.0, or higher. Operation is not supported using DOS 1.X.

The software is designed to be used with any hard disk drives supported by DOS. The software also works well with floppy disks.

The Disk Optimizer Software can handle disks containing up to 512 directories and sub-directories.

The Disk Optimizer can handle disk directory organizations which are up to thirty (30) levels deep; that is a sub of a sub of a sub... for up to thirty times.

The Disk Optimizer software requires that there be at least one free cluster of disk space on the drive to be optimized. This space is used for the process of re-arranging the disk's contents.

Optimum performance for the operation of the Disk Optimizer program is achieved when the drive contains extra free space. The best performance is achieved when there are at least two tracks worth of free space (equals about 35 clusters, or about 100-200K bytes).

7.0 Index

Analysis 19
Backup Copy 6, 11
Backup Recommendations 11
Cluster 7, 19
De-Encryption 25, 26
Display Format 31, 33
Encryption 25, 26
Formats, Display 31, 33
Globals 21, 25, 26
License 1
Lock 25, 26
Multi Tasking Operation 12
Multi User Operation 12
Optimization 7, 8, 11, 19
Optimizing 8, 11
Password 25, 26
Peeker 31, 32
Questions and Answers 9
Starting 6
Storage Unit 7, 19
Unlock 25, 26
Using the Manual 6
Using the Software 6